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Douglas-fir Tussock Moth Appraisal Survey Owyhee County, Idaho

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DOUGLAS-FIR TUSSOCK MOTH
APPRAISAL SURVEY
OWYHEE COUNTY, IDAHO

By

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INTRODUCTION

The Douglas-fir tussock moth, Hemerocampa pseudotsugata (McD.), was first surveyed in Owyhee County in 1951. The infestation was primarily on Bureau of Land Management lands with state and private sections intermingled. At that time approximately 10,000 acres were heavily infested around DeLamar, Silver City, and South Mountain. Complete defoliation had occurred in some areas and the observation was made that some tree mortality might occur.

In June 1952, these areas were revisited and no tussock moth larvae were found. Tree mortality had occurred in the Vulcan and Badger Creek areas. In the DeLamar area very few dead trees were noted, but some top-killing had occurred. The infestation subsided by the spring of 1953.

In August 1956, the tussock moth was again reported as being active in Owyhee County. A reconnaissance survey showed the reoccurrence to be in the same areas as reported in 1951. Defoliation was far from being complete. A high degree of parasitism was quite evident; however, current egg masses were readily found.

THE SURVEY

An appraisal survey was conducted between September 10 and 12 and an aerial survey on September 23, 1957. Two whole mid-crown branches were taken from each of 5 areas or drainages, with an additional 5 areas being scouted. These 10 areas covered the main bodies of timber within the infestation (see appended map).

The following data were taken from the whole branch sampling unit:

Table 1. Survey data of the Douglas-fir tussock moth infestation in Owyhee County, Idaho

Sample plot	Tree sp.	Number branches	Pupal cases	Emerged	Parasitized	Percent parasitism	New egg masses	Old egg masses	Total tips	Defol. tips	Percent defoliated
1	AF	2	13	2	4	31	5	2	visual - light		
2	DF	2	4	0	1	25	0	1	91	8	9
3	AF	2	21	18	3	14	2	0	111	56	50
4	AF		Scouted - light defoliation								
5	AF	2	18	14	4	22	2	11	259	134	52
6	AF		Scouted - heavy defoliation								
7	DF	2	31	23	1	3	1	3	483	243	50
8	DF		Scouted - little or no defoliation								
9	DF		Scouted - no defoliation								
10	DF		Scouted - no defoliation								

In plots 3, 5, 6, and 7 the top crowns were much more severely defoliated than the mid-crowns. In fact, practically all of the needles had been eaten and top-killing could result.

The defoliation within plot 2 appeared to be less than in 1956, whereas plots 1 and 4 are new infestations.

Only plot 2 was sampled for parasitism in 1956, which has decreased in 1957. Parasitism, in general, appears to have decreased or remained static. However, since only observations were made in 1956 as compared to sampling in 1957, the comparison is subject to question.

To confound the survey, heavy defoliation of alpine fir by an unknown defoliator was noted in plots 1, 4, and 5. In 1952, L. W. Orr reported the total lack of tussock moth larvae, but an abundance of sawfly larvae in the Douglas-fir in these areas. The type of present damage and absence of pupal cases, even though on alpine fir, has the characteristics of a sawfly.

Approximately 26,040 acres of infestation were mapped from the air as shown in table 2.

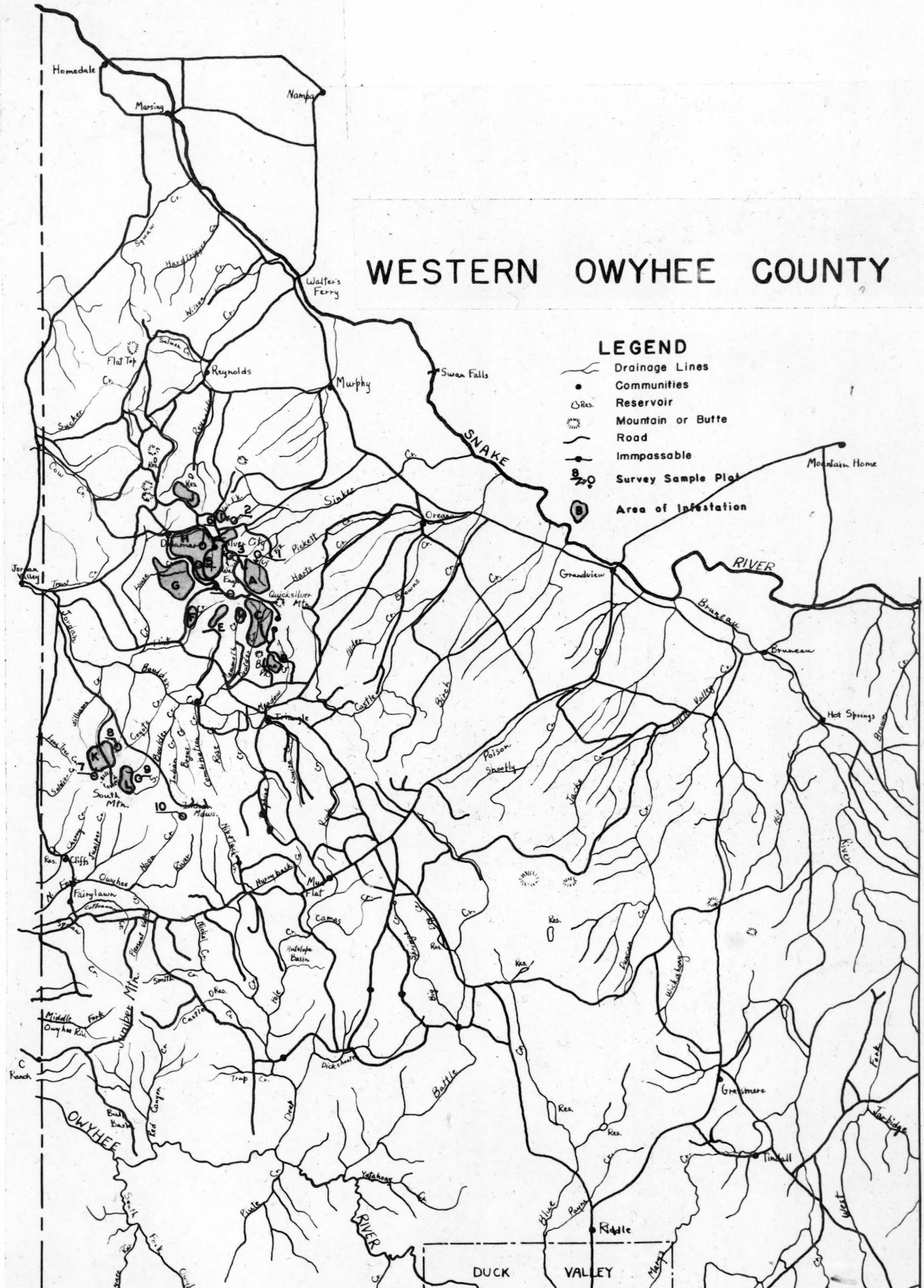
DISCUSSION

Unlike in 1951-52, this infestation shows no indications of immediate cessation. It appears at the present time that the tussock moth infestation will continue in 1958. However, a reconnaissance of these areas should be done in the spring to determine if history will repeat itself.

These areas of second-growth Douglas-fir and alpine fir are of importance as watershed cover, but also this stand growing on a good site represents a valuable source of timber in the future. In view of possible continued infestation there is considerable danger that unless natural factors reduce the infestation promptly or measures are taken to control the outbreak, considerable loss is probable.

Table 2. Areas and acreage of Douglas-fir tussock moth infestation in Owyhee County, Idaho

Area Area	Location Location	Degree of infestation	Approximate acreage
A	E. Face War Eagle Mtn.	Heavy	2,650
B	Boone Peak	Medium	660
C	S. Face War Eagle Mtn.	Heavy	4,600
D	Mammoth Creek	Heavy	430
E	S. Fk. Flint Creek	Medium	860
F	N.W. of Flint Creek	Med - Heavy	500
G	Louse Creek	Heavy	6,230
H	Delamar - Silver City	Heavy	6,500
I	Silver City Rd.- Summit	Light	400
J	Reynold Creek	Light	850
K	South Mtn.	Heavy	660
L	S. Fk. Boulder Cr.	Heavy	1,700
		Total	26,040


WESTERN OWYHEE COUNTY
LEGEND
Drainage Lines
Communities
Reservoir
Mountain or Butte
Road
Immpassable
Survey Sample Plot
Area of Infestation
Homedale
Marsing
Nampa
Walter's Ferry
Reynolds
Murphy
Swan Falls
SNAKE
RIVER
Mountain Home
Oreana
Grandview
Bruneau
Hot Springs
Quicksilver Mtn.
Jordan Valley
Triangle
South Mtn.
Cliffs
Fairylawn
Mud Flat
Antelope Basin
Juniper Mtn.
C Ranch
OWYHEE
Grasmere
Tindall
Riddle
DUCK VALLEY
INDIAN RESERVATION